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1975 Part 2 - Rate, time and frequency of nitrogen application on kikuyu

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SUMMARY OF RESULTS

1975

W.J. COX

PART II Rate, Time and Frequency of Nitrogen
Application on Kikuyu

J. Burton, Hazelvale 74DE7/1616EX

74DE7/1616EX RATE, TIME OF N APPLICATION ON KIKUYU

In 1975 no new treatments were applied. The residual effects of the 1974 treatments were measured through monthly cuts.

I. DRY MATTER PRODUCTION kg/ha/day (No Spring '74 N)

PERIOD	TREATMENT																				
	Nil			50 at ger			50 at 4 wks			25 both times			100 at ger			100 at 4 wks			50 both times		
	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot
March 10-April 8	.5	9.6	10.1	.3	5.6	5.9	.2	7.4	7.6	.7	7.6	8.3	.3	11.5	11.8	.6	14.4	15.0	.2	7.1	7.2
April 9 -May 5	4.0	25.6	29.6	2.3	9.8	12.1	1.0	6.4	7.4	0.8	13.3	14.1	.1	3.1	3.2	-	-	-	.7	3.5	4.2
May 6 -June 9	3.2	15.7	18.9	6.6	14.7	21.3	5.7	18.2	23.9	5.3	12.0	17.3	2.9	4.4	7.3	4.0	14.6	18.6	1.6	9.0	10.6
June 9 -July 7	8.4	8.5	16.9	5.6	7.3	12.9	5.4	10.2	15.6	3.4	9.4	12.8	2.7	4.8	7.5	5.0	9.4	14.4	4.6	6.6	11.2
July 8 -Aug 18	2.6	4.1	6.7	6.2	6.0	12.2	5.8	5.6	11.4	3.5	4.0	7.6	2.4	3.2	5.9	7.2	5.4	12.7	7.6	3.7	12.6
Aug 19 -Sept 29	20.6	8.8	29.8	23.4	12.7	37.0	17.9	7.8	27.0	18.1	9.7	28.4	15.0	9.6	29.3	27.9	12.3	41.0	18.6	6.1	28.0
Sept 29 -Oct 27	37.5	21.0	58.6	39.3	16.5	56.4	50.3	13.7	64.0	46.7	15.2	62.2	37.8	19.1	56.9	46.9	14.8	61.7	41.7	13.6	55.4
Oct 28 -Dec 2	12.4	13.1	25.5	27.7	14.3	41.9	15.1	19	34.1	21.3	12	33.3	19.4	14.4	33.8	22.9	16.9	39.8	19.6	11.4	31.0

(Spring N 1974)

PERIOD	TREATMENT																				
	Nil			50 at ger			50 at 4 wks			25 both times			100 at ger			100 at 4 wks			50 both times		
	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot	C	G	Tot
March 10-April 8	.2	15.2	15.4	.2	12.7	12.9	.6	20.2	20.8	.2	15.3	15.5	0	26.5	26.5	0	7.2	7.2	0.1	8.8	8.9
April 9 -May 5	2.2	19.6	21.8	0	1.0	1.0	.2	3.9	4.1	.9	15.3	16.2	0	1.9	1.9	-	-	-	.1	1.9	2.0
May 6 -June 9	2.9	15.8	18.7	2.4	9.1	11.5	3.4	13.4	16.8	.2	7.0	7.2	.4	5.7	6.1	1.3	9.5	10.8	.2	9.2	9.4
June 9 -July 7	3.4	9.5	12.9	2.8	9.1	11.9	2.4	7.6	10.0	3.0	7.3	10.3	1.4	7.5	8.9	1.3	6.5	7.8	1.2	9.2	10.4
July 8 -Aug 18	3.2	4.7	7.9	2.3	5.4	8.0	3.2	2.7	6.8	2.5	4.0	6.5	1.4	3.6	6.1	3.0	3.1	6.2	0.8	5.4	6.5
Aug 19 -Sept 29	16.0	14.3	40.9	12.6	11.6	25.7	20.6	10.5	35.6	13.8	12.0	26.4	9.0	4.9	16.8	15.1	9.8	29.1	5.5	11.3	23.9
Sept 29 -Oct 27	36.9	21.1	58.7	40.6	22.8	62.7	41.6	12.9	55.1	34.8	12.9	47.7	32.8	17.0	49.8	32.8	17.4	50.2	34.2	17.3	52.5
Oct 28 -Dec 2	16.5	11.8	28.3	18.5	19.0	37.5	21.3	12.1	33.3	19.0	14.4	33.4	20.3	13.4	33.7	19.2	12.6	31.8	18.8	16.5	35.3

Soil Properties March 10, 1975

20 cores 0-10cm/plot

Treatment kg N/ha	MEAN		
	C%	N%	NH ₄ ppm
- N			
Nil	4.89	.330	45
50 at germination	5.08	.320	39
50 at 4 weeks	5.21	.334	43
25 at both times	5.01	.327	44
100 at germination	4.62	.292	32
100 at 4 weeks	4.93	.334	39
50 at both times	4.72	.309	33
+ N			
Nil	4.82	.312	43
50 at germination	4.99	.310	37
50 at 4 weeks	4.71	.303	36
25 at both times	4.69	.315	32
100 at germination	4.89	.320	38
100 at 4 weeks	4.76	.311	34
50 at both times	4.72	.315	36

Depth (cm)	pH	Clay %	C %	N %	CEC meq%	Ca meq%	Mg meq%	K meq%	Na meq%	H meq%	NH ₄ ppm
0-10	4.95	1.5	6.77	.488	11.6	6.9	1.3	.45	.15	2.8	44
10-20	5.15	4.5	2.77	.155	6.2	2.3	0.4	.10	.05	3.4	9
20-30	5.30	5.8	1.34	.077	3.4	0.9	0.2	.05	<.05	2.2	4
30-40	5.60	9.0	1.07	.059	3.0	0.7	0.1	.05	<0.05	2.2	4

Rainfall mm 1975 season

Period	mm
9/4 - 5/5	82.3
6/5 - 9/6	216.8
10/6 - 7/7	106.6
8/7 -18/8	263.0
19/8 -29/9	132.0
30/9 -27/10	79.6
28/10- 2/12	60.8

Total N Concentration %

Treatment (No Spring N 1974) kg N/ha

PERIOD	Nil		50 at seeding		50 at 4 wks		25 both times		100 at seeding		100 at 4 wks		50 both times	
	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr
Apr. 8, 1975	4.13	3.27	4.13	2.52	4.13	3.10	4.13	2.59	4.13	2.16	4.13	3.22	4.13	2.83
May 5, 1975	4.17	3.10	3.89	2.71	4.07	2.76	3.92	2.66	3.76	2.39	4.20	2.65	3.81	2.71
June 9, 1975	4.66	3.17	4.46	3.40	4.44	3.12	4.42	3.30	4.42	3.16	4.67	3.29	4.72	3.06
July 7, 1975	MP	3.23	5.13	3.48	5.02	3.13	4.92	3.23	4.97	3.40	4.94	3.27	5.10	3.35
Aug 18, 1975	4.44	3.06	4.80	3.36	4.67	3.12	4.37	3.18	4.65	3.23	4.49	3.36	4.67	3.09
Sept 29, 1975														
Oct 27, 1975														
Dec 2, 1975														

Treatment (50 kg N Spring 1974) kg N/ha

PERIOD	Nil		50 at seeding		50 at 4 wks		25 both times		100 at seeding		100 at 4 wks		50 both times	
	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr	Cl	Gr
Apr 8, 1975	4.01	3.14	4.01	2.58	4.01	2.66	4.01	2.74	4.01	2.74	4.01	3.21	4.01	2.40
May 5, 1975	4.17	3.18	3.89	2.80	4.07	2.75	3.92	2.93	3.76	2.60	4.20	2.78	3.81	2.66
June 9, 1975	4.36	3.19	4.46	3.25	4.45	3.03	4.51	3.10	4.35	2.93	4.47	2.93	4.50	3.09
July 7, 1975	4.84	3.19	5.21	3.66	4.94	3.51	4.98	3.26	4.72	3.05	4.99	3.23	4.79	3.32
Aug 18, 1975	4.66	2.75	4.51	3.06	4.56	3.09	4.50	3.00	4.40	2.84	4.63	2.96	4.32	3.07
Sept 29, 1975														
Oct 27, 1975														
Dec 2, 1975														